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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,755	10/24/2000	Michael A. Nelson	CROSS1400-1	2697
44654 7590 06/13/2007 SPRINKLE IP LAW GROUP 1301 W. 25TH STREET SUITE 408 AUSTIN, TX 78705				
			EXAMINER RYMAN, DANIEL J	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 06/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/695,755	Applicant(s) NELSON ET AL.	
	Examiner Daniel J. Ryman	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,5,8,11 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4,5 and 8 is/are allowed.
- 6) ☒ Claim(s) 11 and 18 is/are rejected.
- 7) ☒ Claim(s) 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. The indicated allowability of claims 11 and 18 is withdrawn in view of the newly discovered reference(s) to Vaidya et al. (USPN 6,870,809) and Deng et al. (USPN 6,567,414).

Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Epps et al. (USPN 6,731,644), of record, in view of Muller et al. (USPN 6,128,666), of record, in further view of Vaidya et al. (USPN 6,870,809).

4. Regarding claim 11, Epps discloses a frame buffer system comprising: a receive buffer configured to store a plurality of received frames (ref. 215, see col. 5, lines 43-48), wherein the receive buffer is configured to be accessed in a first-in-first-out fashion (col. 8, lines 29-34, see also col. 5, lines 43-60); a header storage configured to store header information corresponding to each of the frames in the receive buffer (ref. 480, see col. 9, lines 34-41); transfer logic coupled to the receive buffer and header storage, wherein the transfer logic is configured to make a routing decision for delivering each of the frames in the receive buffer to a destination based on the corresponding header information read from the header storage (col. 9, lines 1-15), the routing decision being made prior to the corresponding frame reaching a head position in the

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receive buffer (col. 9, lines 1-22, where the routing decision is made in an intermediate stage of the pipeline process, i.e. the TLU stage, and where the packet is transferred once it has reached the final pipeline stage, see also col. 6, lines 36-42), and to transmit each of the frames to a destination port according to the corresponding routing decision (col. 9, lines 11-22, where the “frame” is retrieved from the receive buffer and sent to a transmit buffer, see also col. 3, lines 22-34).

Epps does not expressly disclose that the header information is duplicated header information. Rather, Epps discloses that the header information is stripped from the received packet, such that a joining circuit must rejoin the header and the payload when the packet is ready to be transmitted (col. 7, lines 5-10). Muller teaches, in a system for examining packet headers, copying the packet headers and forwarding these copies to a search engine (col. 6, line 67-col. 6, line 17, where the search engine determines how the packet is to be routed). Muller copies rather than extracts the header in order to modify or update header information only when necessary to preserve end-to-end error robustness (col. 5, lines 44-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to duplicate the header information, rather than extract the header information, in order to preserve end-to-end error robustness by modifying or updating the header information only when necessary.

Epps in view of Muller does not expressly disclose a bypass circuit configured to receive first duplicated header information, wherein when duplicated header information is received, if no preceding duplicated header information is currently stored in the header storage, the bypass circuit is configured to make the first duplicated header information available to transfer logic. Vaidya teaches, in a FIFO packet buffering system, that when a buffer is empty then received

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information will be transferred directly out of the buffer (col. 9, lines 17-23). It is implicit that this is done to eliminate any delay that would be incurred by forcing information to cycle through an empty buffer. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ of the processing technique of Vaidya in the system of Epps in view of Muller by configuring a bypass circuit to receive first duplicated header information, wherein when duplicated header information is received, if no preceding duplicated header information is currently stored in the header storage, the bypass circuit is configured to make the first duplicated header information available to transfer logic. One of ordinary skill in the art at the time of the invention would have been motivated to do this to eliminate any delay that would be incurred by having a newly received packet cycle through an empty buffer.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Epps et al. (USPN 6,731,644), of record, in view of Muller et al. (USPN 6,128,666), of record, in further view of Vaidya et al. (USPN 6,870,809), as applied to claims 1 and 9 above, and in further view of Deng et al. (USPN 6,567,414).

6. Regarding claim 18, Epps in view of Muller in further view of Vaidya does not expressly disclose a transmit timer associated with the transmit buffer, wherein the transmit timer indicates the amount of time the frame currently residing in the transmit buffer has been in the transmit buffer. Deng teaches, in a packet communication system, associating a transmit timer with a buffer to ensure that a buffer does not become blocked for a long period of time (col. 2, lines 41-46). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the buffer timer of Deng with the system of Epps in view of Muller in further view of Vaidya to have a system that associates a transmit timer with the transmit buffer,

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wherein the transmit timer indicates the amount of time the frame currently residing in the transmit buffer has been in the transmit buffer. One of ordinary skill in the art at the time of the invention would have been motivated to do this to ensure that the transmit buffer does not become blocked by a packet for a long period of time.

Allowable Subject Matter

7. Claims 4, 5, and 8 are allowed. The prior art does not disclose or fairly suggest tying a specific timer to each header in the header buffer to indicate the amount of time that a frame has been in the buffer.

8. Claims 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or fairly suggest tying a specific timer to each header in the header buffer to indicate the amount of time that a frame has been in the buffer.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nichols et al. (US 4,977,582) and Sang et al. (US 6,577,636) disclose routing/forwarding systems that include storing frame header information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00am-4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel J. Ryman
Examiner
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